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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/081,208	02/25/2002	Isao Mochida	080542-0157	4498

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EXAMINER	
HENDRICKSON, STUART L	

ART UNIT	PAPER NUMBER
1754	

DATE MAILED: 02/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/081,208	MOCHIDA ET AL.	
	Examiner	Art Unit	
	Stuart Hendrickson	1754	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 December 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *11-19,21 and 22* is/are pending in the application.

4a) Of the above claim(s) *11,12,21 and 22* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *13-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action. The request for continued examination has been entered.

Claims 13-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Matsumura article.

The reference teaches on pg. 266 especially active carbon having low oxygen content used as an adsorbent. The carbon was deoxygenated in hydrogen at 1000 degrees. Note that one g of carbon has about 10 exp 22 atoms, so the oxygen amount is about 1% of the carbon. The reference differs in not having plural beds, however using more than one bed is an obvious expedient for complete capture of the pollutant of interest- see also In re Harza 124 USPQ 378. Using a 'packed' bed is an obvious expedient to optimize bed capacity and pressure drop; note In re Boesch 205 USPQ 215.The claims do not require NOx scrubbing. With regard to claims 16 and 18, the references do not teach the source of the carbon. However, no patentable difference is seen therein, as the original carbon has been transformed by the activation and carbonization.

Claims 13-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seki 3961020 in view of Liang et al. 5462908.

Seki teaches in col. 2-3 especially removing NOx with ammonia over several packed beds of halogen-treated carbon. Seki does not explicitly teach the oxygen level of the carbon.

Liang provides evidence that bromine treatment reduces the surface oxygen content- see col. 2. Arriving at the claimed oxygen level, if not inherently possessed, is an obvious expedient to optimize the bed activity. With regard to claims 16 and 18, the references do not teach the source of the carbon. However, no patentable difference is seen therein, as the original carbon has been transformed by the activation and carbonization.

Claims 13-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishino et al. 4256728 taken with Liang et al.

Nishino teaches plural beds which can be active carbon. However, Nishino does not teach carbon which has the claimed oxygen level. Liang provides evidence that bromine treatment reduces the surface oxygen content- see col. 2. Arriving at the claimed oxygen level, if not inherently possessed, is an obvious expedient to optimize the bed activity.

Nishino differs in not having plural beds of the same type, however using more than one bed is an obvious expedient for complete capture of the pollutant of interest- see also In re Harza 124 USPQ 378. Using a 'packed' bed is an obvious expedient to optimize bed capacity and pressure drop; note In re Boesch 205 USPQ 215.The claims do not require NOx scrubbing. With regard to claims 16 and 18, the references do not teach the source of the carbon. However, no patentable difference is seen therein, as the original carbon has been transformed by the activation and carbonization.

Claims 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references applied above as applied to each of the rejections above, and further in view of Endo 5446005.

The references above do not teach the source of the carbon, however Endo teaches pitch based active carbon as an adsorbent. Using pitch to make the active carbon used by the above references is an obvious expedient to provide the active carbon required above.

Applicant's arguments with respect to claims above have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication should be directed to examiner Hendrickson at telephone number (571) 272-1351.

Stuart Hendrickson
examiner Art Unit 1754